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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,884	10/20/2005	Brian Lane	1781-0015	8850

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MAGINOT, MOORE & BECK, LLP
CHASE TOWER
111 MONUMENT CIRCLE
SUITE 3250
INDIANAPOLIS, IN 46204

EXAMINER	
MILLER HARRIS, AMBER R	
ART UNIT	**PAPER NUMBER**
1709	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,884	LANE ET AL.	
	Examiner	Art Unit	
	Amber Miller-Harris	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/19/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guenter DE 10019293 A1 in view of Billiet GB 2,126,497 and Gieseke et al. US 6,143,049.

Regarding claim 1, the Guenter reference discloses a coalescing filter element for removing liquid droplets from a gas stream, which comprises a wall which is made of coalescing filtration material (figure 1, object 5b) and which defines a hollow space within it (figure 1, object 6), gas being supplied to the hollow space to flow through the filtration material of the wall (figure 1, object 5) and the tube extending beyond the peripheral opening(s) so as to deliver gas to a region of the element which is remote from the entry way (figure 1, object 6a).

The Guenther reference does not disclose an end cap at one end of the element, which has a port though, which the said gas is supplied to the said hollow space, the end cap comprising a peripheral portion which engages the element wall, and at least one peripheral opening located between the tube and the peripheral portion of the end cap.

The Billiet reference discloses an end cap at one end of the element, which has a port though, which the said gas is supplied to the said hollow space, the end cap comprising a peripheral portion which engages the element wall (page 3, lines 76-87).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenter reference to discloses an end cap at one end of the element, which has a port though, which the said gas is supplied to the said hollow space, the end cap comprising a peripheral portion which engages the

element wall (Billiet, page 3, lines 76-87) because this would encapsulate the assembly, therefore a more stable structure.

The Gieseke et al. reference discloses at least one peripheral opening located between the tube and the peripheral portion of the end cap (figure 6, object 146).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenter reference to disclose at least one peripheral opening located between the tube and the peripheral portion of the end cap (Gieseke et al. figure 6, object 46) because this provides an air way for which the gas can flow through.

For claim 2, the Guenther reference does not disclose the tube, which defines the inner opening being supported by means of at least one vane, which extends between it and the peripheral portion of the end cap.

The Gieseke et al. reference discloses the tube, which defines the inner opening being supported by means of at least one vane, which extends between it and the peripheral portion of the end cap (figure 6, object 150).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenther reference to include the tube, which defines the inner opening being supported by means of at least one vane, which extends between it and the peripheral portion of the end cap (Gieseke et al. figure 6, object 150) because the vanes help to ensure that the element does not fall out of the housing during use.

For claim 3, the Guenther reference does not disclose at least three vanes extending between the tube and the peripheral portion of the end cap.

The Gieseke et al. reference discloses at least three vanes extending between the tube and the peripheral portion of the end cap (figure 6, object 150).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenther reference to include at least three vanes extending between the tube and the peripheral portion of the end cap (Gieseke et al. figure 6, object 150) because the vanes help to ensure that the element does not fall out of the housing during use.

For claim 5, the Guenther reference discloses the tube being located approximately centrally in the inlet port (figure 1, object 6a).

For claim 6, the Guenther reference does not explicitly state that the ratio of the length of the tube measured from the edge of the element wall where the end cap engages the wall to the overall length of the wall, is at least about 0.1. However is apparent that the ratio of the length of the tube measured from the edge of the element wall where the end cap engages the wall to the overall length of the wall, is at least about 0.1, by viewing figure 1, objects 6a, and 5b.

For claim 7, the Guenther reference does not disclose the ratio of the area of the inner opening in the port to the total area of the peripheral opening (or openings) is not more than about 0.6.

The Gieseke et al. reference discloses the ratio of the area of the inner opening in the port to the total area of the peripheral opening (or openings) is not more than about 0.6 (figure 6, objects 147, and 133).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenther reference to include the ratio of the area of the inner opening in the port to the total area of the peripheral opening (or openings) is not more than about 0.6. (figure 6, objects 147, and 133) because this allows air to flow more freely through out the hollow space.

For claim 8, the Guenther reference does not disclose the ratio of the area of the inner opening in the port to the total area of the peripheral opening (or openings) is not more than about 0.25.

The Gieseke et al. reference discloses the ratio of the area of the inner opening in the port to the total area of the peripheral opening (or openings) is not more than about 0.25 (figure 6, objects 147, and 133).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenther reference to include the ratio of the area of the inner opening in the port to the total area of the peripheral opening (or openings) is not more than about 0.25. (figure 6, objects 147, and 133) because this allows air to flow more freely through out the hollow space.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guenter DE 10019293 A1 in view of Billiet GB 2,126,497 and Gieseke et al. US 6,143,049 as applied to claim 2 above, and further in view of Ross US 2,754,970.

Regarding claim 4, the Guenther reference does not disclose vanes being arranged so that they impart a helical flow to gas flowing through the peripheral openings, relative to the axis defined by the port.

The Ross reference discloses vanes being arranged so that they impart a helical flow to gas flowing through the peripheral openings, relative to the axis defined by the port (figure 1, object 19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenther reference to include vanes being arranged so that they impart a helical flow to gas flowing through the peripheral openings, relative to the axis defined by the port (Ross, figure 1, object 19) because the centripetal force created by the helical vanes causes the contaminants within the stream to become unstable and to be forced to the edge of the stream, along the wall, increasing the efficiency of the separator.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guenter DE 10019293 A1 in view of Billiet GB 2,126,497 and Gieseke et al. US 6,143,049 as applied to claim 1 above, and further in view of Ross US 2,754,970.

Regarding claim 9, the Guenther reference does not disclose the tube containing at least one vane within it for imparting a helical flow to gas flowing though the tube, relative to the axis of the tube.

The Ross reference discloses the tube containing at least one vane within it for imparting a helical flow to gas flowing though the tube, relative to the axis of the tube (figure 1, object 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Guenther reference to include the tube containing at least one vane within it for imparting a helical flow to gas flowing though the tube, relative to the axis of the tube (Ross, figure 1, object 7) because the centripetal force created by the helical vanes causes the contaminants within the stream to become unstable and to be forced to the edge of the stream, along the wall, increasing the efficiency of the separator.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amber Miller-Harris whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon-Thur (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AH

WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER